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U.S. Department of the Interior

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Point Reyes National Seashore News Release

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Restoration of the Historic Point Reyes Lighthouse

This winter, the Seashore will begin a major rehabilitation project to preserve the historic Point Reyes Lightstation. The Point Reyes Lightstation was constructed in 1870 but was retired from service in 1975 at which point the U.S. Coast Guard installed an automated light. Ownership was then transferred to the National Park Service.

The Point Reyes Lighthouse lens and mechanism were constructed in France in 1867. The clockwork mechanism, glass prisms and housing for the lighthouse were shipped on a steamer around the tip of South America. The parts from France and the cast iron tower, which was built in San Francisco, were then hauled on ox-drawn carts from the landing on Drakes Bay to the cliff 600 feet above sea level.

Meanwhile, 300 feet below the top of the cliff, an area had been blasted with dynamite to clear a level spot for the lighthouse. To be effective, the lighthouse had to be situated below the characteristic high fog. It took six weeks to lower the materials from the top of the cliff to the lighthouse platform and construct the lighthouse.


Finally, after many years of tedious political pressure, transport of materials and difficult construction, the Point Reyes Light first shone on December 1, 1870.

The lens in the Point Reyes Lighthouse is a "first order" Fresnel (fray-nel) lens, the largest type of Fresnel lens. Augustine Jean Fresnel of France revolutionized optic theories with his new lens design in 1823.

Before Fresnel developed this lens, lighthouses used mirrors to reflect light out to sea. The most effective lighthouses could only be seen eight to twelve miles away. After his invention, the brightest lighthouses could be seen all the way to the horizon, about twenty-four miles.

The Fresnel lens intensifies the light by bending (or *refracting*) and magnifying the source light through 1,032 crystal prisms into concentrated beams. The Point Reyes lens is divided into twenty-four vertical panels, which direct the light into twenty-four individual beams. A counterweight and gears similar to those in a grandfather clock rotate the 6,000-pound lens at a constant speed, one revolution every two minutes. This rotation makes the beams sweep over the ocean surface like the spokes of a wagon wheel, and creates the Point Reyes signature pattern of one flash every five seconds.

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Over the years the extremely harsh environment at the Point has taken its toll on the facilities and repairs are vitally important to ensure that this important resource is preserved for future generations.

The rehabilitation work, which is funded through Congressional appropriation, will be primarily the repair or improvements of site features and utility systems. The project will include repairs of the stairs and railing down to the lighthouse, the installation of a new water supply and fire suppression system for the site. The work will be undertaken by a contractor selected through a competitive bidding process.

Phase I of the Lighthouse Complex Rehab has already begun and is projected to last through December. This phase of work consists of installing the waterline from the new well up to and along the Lighthouse road past the parking lot and up to the existing water storage tank. As a majority of the pipe installation is either next to or in the roadway, the NPS expects there will be up to 14 working days during which the visiting public will **NOT** be able to drive to the parking lot. Visitors will have to walk a total of one mile to access the Lighthouse and Visitor Center. Additionally, the stairs down to the Lighthouse will be closed Monday – Friday as critically needed repairs will take place. During construction, portions of the site will be closed to public access, however the Seashore will work with the selected contractor to ensure that closures are kept to an absolute minimum. Work will only occur on weekdays.

The historic Point Reyes Lighthouse served mariners for 105 years before it was replaced. It endured many hardships, including the 1906 earthquake, during which the Point Reyes Peninsula and the lighthouse moved north 18 feet! The only damage to the lighthouse was that the lens slipped off its tracks. Thirteen minutes after the earthquake, the lighthouse was once again in working order.

The National Park Service is now responsible for the maintenance of the lighthouse. Park rangers now clean, polish and grease it, just as lighthouse keepers did in days gone by. With this care, the light can be preserved for future generations - to teach visitors of maritime history and of the people who worked the light, day in and day out, rain or shine, for so many years.

Please visit our expanded website at www.nps.gov/pore for information.

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